

CLAIMS

1. (Amendment) A MEMS array characterized by being provided with pluralities of various types of elements for each type and switches for connecting said elements and by enabling the elements to be freely interconnected.

2. A MEMS array as set forth in claim 1, wherein the switches connecting the elements are semiconductor switches.

3. A MEMS array as set forth in claim 1, wherein the switches connecting the elements are mechanical switches.

4. A MEMS array as set forth in claim 1, provided with a substrate and an interconnect layer, said substrate being formed with said switches, said interconnect layer provided with a plurality of elements connected through said switches.

5. A MEMS array as set forth in claim 4, wherein said substrate is provided with drive parts for driving said switches.

6. A MEMS array as set forth in claim 5, wherein said substrate is further provided with semiconductor circuits for signal processing.

7. A MEMS array as set forth in claim 6, wherein said semiconductor circuits have three-dimensional structures.

8. A MEMS array as set forth in claim 1, provided with a substrate and interconnect layer, said interconnect layer provided with a plurality of elements and switches for connecting the elements.

9. A MEMS array as set forth in claim 8, wherein said substrate is provided with drive parts for driving said switches.

10. A MEMS array as set forth in claim 9, wherein said substrate is provided with semiconductor circuits for signal processing.

11. A MEMS array as set forth in claim 10, wherein

said semiconductor circuits have three-dimensional structures.

12. A MEMS array as set forth in claim 1, provided with a substrate and interconnect layer, said  
5 interconnect layer provided with a plurality of elements, switches for connecting said elements being provided on the interconnect layer.

13. A MEMS array as set forth in claim 12, wherein said substrate is provided with drive parts for driving  
10 said switches.

14. A MEMS array as set forth in claim 13, wherein said substrate is provided with semiconductor circuits for signal processing.

15. A MEMS array as set forth in claim 14, wherein said semiconductor circuits have three-dimensional structures.

16. A MEMS array as set forth in claim 1, wherein the same package packages semiconductor circuits built in.

20 17. (Amendment) A method of production of a MEMS array providing an interconnect layer on a substrate, said method of production of a MEMS array characterized by having:

25 a step of forming a plurality of switches in said substrate and

a step of forming pluralities of various types of elements for each type connected through said plurality of switches in said interconnect layer.

30 18. (Amendment) A method of production of a MEMS array providing an interconnect layer on a substrate, said method of production of a MEMS array characterized by having:

35 a step of forming pluralities of various types of elements for each type in said interconnect layer and

a step of providing a plurality of switches for connecting said elements on said

interconnect layer.

19. (Amendment) A method of production of a MEMS array providing an interconnect layer on a substrate, said method of production of a MEMS array characterized by having:

a step of forming switch drive parts on said substrate,

a step of forming pluralities of various types of elements for each type in said interconnect layer, and

a step of providing a plurality of switches for connecting said elements on said interconnect layer.

20. A method of production of a MEMS device having a plurality of elements of the same arrangement as a MEMS array provided with a plurality of elements and switches for connecting said elements,

said method of production of a MEMS device characterized by having:

a step of determining connection states of switches of said MEMS array and

a step of forming an interconnect layer connecting elements in accordance with the connection states of said switches.

21. A method of production of a MEMS device having a plurality of elements of the same arrangement as a MEMS array provided with a plurality of elements and switches for connecting said elements,

said method of production of a MEMS device characterized by having:

a step of determining connection states of switches of said MEMS array,

a step of forming an interconnect layer connecting elements in accordance with the connection states of said switches on the substrate of said MEMS device, and

a step of forming a plurality of elements

of the same arrangement as the MEMS array on said interconnect layer.

22. A method of production of a MEMS device having

a plurality of elements of the same arrangement as a MEMS array provided with a plurality of elements and switches for connecting said elements,

5                   said method of production of a MEMS device characterized by having:

                  a step of determining connection states of switches of said MEMS array,

                  a step of providing switches in the substrate of the MEMS device,

10                   a step of providing an additional interconnect layer for short-circuiting, opening, or connecting said switches in accordance with the connection states of said switches on the substrate of the MEMS device, and

15                   a step of providing an interconnect layer arranging a plurality of elements of the same arrangement as said MEMS array on said additional interconnect layer.

23. A method of production of a MEMS device having a plurality of elements of the same arrangement as a MEMS array provided with a plurality of elements and switches for connecting said elements,

20                   said method of production of a MEMS device characterized by having:

25                   a step of determining connection states of switches of said MEMS array,

                  a step of forming an interconnect layer providing a plurality of elements of the same arrangement as said MEMS array, and

30                   a step of selectively forming switches and interconnects on said interconnect layer based on the connection states of said switches.